

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004448**Date Inspected:** 02-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Chen Chih-Ming**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** deck panels**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG assembly bay 2

QA performed Phased Array Ultrasonic Testing (PAUT) in the tacked areas on u-rib to deck plate Partial Joint Penetration (PJP) welds following the guide lines of UT procedure titled "Phased Array Ultrasonic Testing for the Detection and Sizing of Suspected Planar Discontinuities (Cracks) in PJP Welds" after the contractor performed R1 repairs and conventional Ultrasonic Testing (UT) in the areas that previously exhibited crack like indications discovered by Caltrans QA using the PAUT method. This QA inspector performed 100 % PAUT of the entire length of each repaired area on the following deck panels:

DP-324-002

Weld# 3 – 4 tacks PAUT'ed – 0 indications non-compliant.

Weld# 5 – 1 tacks PAUT'ed – 0 indications non-compliant.

Weld# 6 – 1 tacks PAUT'ed – 0 indications non-compliant.

Weld# 8 – 1 tacks PAUT'ed – 0 indications non-compliant.

ZPMC QA identified as Mr. Lei Tua requested this QA to perform R1 PAUT inspection of deck panels DP-380-001 and DP-136-001 in OBG assembly bay 2. These deck panels were not located in the assembly bay.

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Both were found in tower bay 3 stacked on a truck to be transported to OBG assembly bay 2. ZPMC moved these panels to assembly bay and left them on the truck until 21:00 hrs. They were being off loaded at the end of this QAs shift.

QA performed Phased Array Ultrasonic Testing (PAUT) following the guide lines of UT procedure titled “Phased Array Ultrasonic Testing for the Detection and Sizing of Suspected Planar Discontinuities (Cracks) in PJP Welds” after Caltrans NDE technicians performed the preliminary scan with conventional Ultrasonic Testing (UT) in the tacked areas of the Partial Joint Penetration (PJP) welds joining u-ribs to deck plates. This QA inspector performed 100 % PAUT in the areas that exhibited crack like indications with conventional UT. This QA inspector confirmed crack like indications as follows:

DP-270-001: (PAUT)

Weld# 1 – 9 tacks PAUT’ed – 0 indications verified

Weld# 2 – 10 tacks PAUT’ed – 3 indications verified*

* weld 2 “Y” location 8250mm / depth 9.04mm / dbs 9.5 / length 8mm.

* weld 2 “Y” location 10095mm / depth 9.74mm / dbs 9.5 / length 50mm.

* weld 2 “Y” location 14825mm / depth 11.07mm / dbs 7.1 / length 8mm.

QA did not complete the PAUT on this deck panel. Welds 3 thru 6 still require PAUT.

NOTE: The following are the dbs reference levels obtained from known cracks in three macroetch samples:

1.2mm macroetch crack sample 5-3 DP-564: 9.8 dbs.

2mm macroetch crack sample 5-9 DP-564: 9.5 dbs.

4mm macroetch crack sample 5-6 DP-564: 8.4 dbs.

Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ryan Smith, (858) 232-6799, who represents the Office of Structural Materials for your project.

Inspected By:	Hall,Steven	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
